

WHAT IS CLAIMED IS:

1. A control circuit for a power supply apparatus comprising a plurality of power converter circuits connected in parallel; each power converter circuit comprising a switch circuit for forming a pulse-like waveform by switching an inputted power according to a pulse driving signal, and a smoothing circuit for converting the pulse-like waveform into a direct current and outputting the direct current;
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the control circuit comprising a feedback control unit for changing, according to a magnitude of an arithmetic value summing a proportion signal in proportion to a deviation of an output voltage of the power converter circuit from a reference voltage and an integration signal integrating the deviation, a duty ratio of the pulse driving signals applied to switching devices of the power converter circuits; and a phase control unit for causing the pulse driving signals to synchronize phases thereof when the proportion signal or integration signal exceeds a threshold thereof.
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2. A control circuit according to claim 1, wherein said threshold is variable.
3. A power supply apparatus comprising the control apparatus according to claim 1, wherein the plurality of power converter circuits are connected in parallel, and wherein the power converter circuits are
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controlled by the control circuit.